

## NORTH AMERICAN SPECIES OF AGARICACEAE.

A. P. MORGAN.

18. HYPHOLOMA AMBIGUUM PECK, BULL. TORR. CLUB, 1898.

Pileus fleshy, convex becoming nearly plane, glabrous slightly viscid when moist, straw-color inclining to pale orange; the flesh thin, white; veil white, thick appendiculate, deciduous. Stipe slender, equal, fistulous, squamose near the base, paler than the pileus. Lamellae close, adnexed, at first grayish, becoming blackish-brown; spores elliptic, 12-15 x 7-8 mic.

Growing in Fir woods; Oregon, Lane. Pileus 5-13 cm. in diameter; stipe 12-22 cm. long. The dried specimens have the general appearance of some species of Stropharia.

19. HYPHOLOMA PECOSENSE COCHERELL, JOURN. MYCOL. X, 1904.

Pileus fleshy, convex, umbonate; the surface smooth, slightly viscid, cream-color, subochraceous in the center; veil pale yellow, lacerate, appendiculate. Stipe long, fistulous, smooth and glabrous, shining, yellowish white or pale ochraceous, striate at the apex and white-furfuraceous. Lamellae narrow, decurrent, pale purplish-gray, becoming purple-brown; spores purple-brown, ovoid, 12 x 8 mic.

Pecos, New Mexico, Graham. Pileus 2.5-4 cm. in diameter; stipe 6-9 cm. long.

III. VELUTINA. *Pileus fleshy, but the flesh thin; the dermis radiately fibrillose, the fibres loosened and appressed or broken into scales, sometimes flocculose. Stipe fibrillose and scaly or flocculose.*

a. *Lamellae narrow.*

20. HYPHOLOMA HISTOSQUAMULOSUM. PECK. 25 N. Y. REP. 1872.

Pileus firm, convex or expanded, hairy-squamulose, hygrophamous, grayish-brown when moist, gray when dry. Stipe short, firm, equal, hollow, slightly hairy-squamulose, and colored as the pileus. Lamellae narrow, rounded behind, gray, then brown; spores subelliptic, 6 mic. long.

Growing on prostrate trunks of maple trees in woods; New York, Peck. Pileus 1-2 cm. in diameter; stipe 2-3 cm. long, 1-2 mm. thick.

21. HYPHOLOMA ORUPELLUM. A (HYPHOLOMA) ORNELLUS, PECK. 34 N. Y. REP. 1881.

Pileus convex or nearly plain, slightly scaly, reddish-brown tinged with purple, paler around the margin; the veil flocculose, appendiculate. Stipe equal or tapering downward, solid, squamulose, pale yellow. Lamellae moderately close, pallid or yellowish, becoming brown; spores brown, elliptic, 6-8 x 4-5 mic.

Growing on decaying wood. New York, *Peck*. Pileus 2-3 cm. in diameter; stipe 3-5 cm. high, 2-3 mm. thick.

22. HYPHOLOMA LONGIPES. PECK. BULL. TORR. CLUB, 1895. SYLLOGE XIV, 152.

Pileus thin, campanulate, hygrophanous; the surface fibrillose, at length glabrous, yellow-brown, when dry brown or isabelline-brown; the veil flocculose, appendiculate, fugacious. Stipe long, slender, fistulous, white, striate at the apex, white-villous at the base. Lamellae narrow, close, adnate, whitish, becoming blackish; spores elliptic, 13 x 7-8 mic.

Growing on the ground among fallen leaves; California, *McClatchie*. Pileus 3-5 cm. in diameter; stipe 5-10 cm. long, 2-3 mm. thick.

23. HYPHOLOMA FLOCCULOSUM. GYMNOCILUS FLOCCULOSUS EARLE, HONGOS CUBANOS, 1906.

Pileus thin, fleshy, convex then expanded, somewhat hygrophanous, at first of a chocolate-color or red-brown, afterward paler, especially when dry; the surface when young covered with scattered woolly tufts, but later nearly glabrous; the margin without striae and at length revolute; the veil thin and evanescent: Stipe rather short, firm, hollow, white; the surface minutely roughened to scaly. Lamellae narrow, close, adnexed, at first pallid, at length purple-brown; spores elliptic, 7-9 x 5-6 mic.

Gregarious; growing in the damp ground underneath buildings; Cuba, *Earle*. Pileus 2-4 cm. in diameter; stipe 2-4 cm. long, 2-3 mm. thick.

24. HYPHOLOMA FLOCCULENTUM. McCLATCHIE, PROC. CAL. ACAD. 1897. SYLLOGE XVI, 123.

Pileus campanulate then convex, ochraceous-brown; the surface when young covered with a thick stratum of white fibrils, these at length to some extent fall away leaving the pileus flocculent; veil white, lacerate, appendiculate. Stipe nearly straight, equal, usually white, velvety-pulverulent, the apex striate. Lamellae close, adnate, subventricose, at first gray-incarnate, at

length purplish-brown; spores brown, elliptic or ovoid, 8-10 x 6 mic.

Growing on the ground next to rotten trunks, California. *McClatchie*. Pileus 2-5 cm. in diameter; stipe 3-5 cm. long, 2-6 mm. thick.

*b. Lamellae rather broad.*

25. HYPHOLOMA LACRIMABUNDUM, AGARICUS LACRYMABUNDUS BULLIARD, HERB. FR. X. 194 FRIES, ICONES, 134.

Pileus fleshy, ovoid then convex and expanded, obtuse; the flesh thin, white; the dermis thick, firm, pale umber, its surface ornamented with dark-colored fibrillose scales; the veil white, fibrillose deciduous. Stipe long, fistulous, whitish, fibrillose-scaly. Lamellae broad, close, adnate, subsinuate, at first whitish then purple-brown; spores purple-brown, subelliptic, inaequilateral, 7-9 x 5 mic.

Densely caespitose; growing among rotten wood; evidently common everywhere. Pileus 5-7 cm. in diameter; stipe 7-10 cm. long, 6-9 mm. thick.

26. HYPHOLOMA PYROTRICHUM, AGARICUS PYROTRICHUS HOLMSKEOLD, BEATA OT, II, 1790. AGARICUS LACRYMABUNDUS BULLIARD, HERB. FR. X. 525.

Pileus fleshy, conic then hemispheric and expanded, obtuse; the flesh thin, fulvous; the dermis radiately fibrillose, flame-color to fulvous, the fibrils fasciculate into subappressed scales; the veil tawny, lacerate, deciduous. Stipe subequal, fistulous, fibrillose-scaly, becoming tawny. Lamellae broad, close, adnate, at first pallid, then brownish; spores ovoid-oblong, 9-11 x 5-6 mic.

Cæspitose and very showy; growing about the trunks of trees in woods; Dayton, Ohio. Pileus 6-9 cm. in diameter; stipe 6-8 cm. long, 4-6 mm. thick.

27. HYPHOLOMA VELUTINUM. AGARICUS VELUTINUS PERSOON, SYNOPSIS. 1801, COOKE, ILLUSTR. 563.

Pileus fleshy, hygrophanous, campanulate then expanded, subumbonate; the flesh very thin and fragile, concolorous; the dermis radiately fibrillose, at first lurid, becoming fulvous, at length clay-isabelline when dry; veil white-floccose, lacerate, appendiculate. Stipe subequal, fistulous, silky-fibrillose, dingy clay-color. Lamellae broad, rather close, adnexed-seceding, at first brownish, the edge white, then bay-brown and black-punctate; spores brown, elliptic, 9-12 x 5-7 mic.

Subcaespitose; growing in streets, along roads, etc. Probably common everywhere. Pileus 6-12 cm. in diameter; stipe 6-12

cm. or more long, 4-15 mm. thick. The size appears to be quite variable, there are small forms, while the stature is sometimes gigantic.

28. HYPHOLOMA AGGREGATUM PECK, 46 N. Y. REP. 1892.

Pileus thin, convex, or subcampanulate, grayish-white, obscurely spotted with appressed brownish fibrils. Stipe rather long, hollow, somewhat floccose or fibrillose, white. Lamellae subdistant, rounded behind and nearly free, at first whitish, then brown or blackish-brown with a whitish edge; spores brown, elliptic, 7-8 x 4-5 mic.

Densely caespitose; growing at the base of trees and stumps in woods. New York, Peck. Pileus 2-3 cm. in diameter; stipe 5-7 cm. long, 3-4 mm. thick.

#### VIII. STROPHARIA FRIES, MONOGRAPHIA I, 1857.

*Pileus fleshy, convex then expanded, the surface various; the veil marginal, when the pileus expands all or most of it left behind upon the stipe. Stipe tubulous or sometimes solid, glabrous or more often fibrous-scaly; the annulus entire or lacerate, usually persistent. Lamellae adnexed or adnate, becoming at length brown or purple-brown, spores brown or purplish-brown.*

A genus corresponding to *Armillaria* and *Pholiota*.

§ 1. FIBRILLOSÆ. Dermis of the pileus radiately fibrillose, the surface not viscid.

I. SPINTRIGERÆ. *The fibrillae innate, the surface of the pileus smooth and glabrous; the stipe also nearly always glabrous.*

a. *Stipe solid, white or whitish.*

I. STROPHARIA JOHNSONIANA PECK, 54 N. Y. REP. 1900. AGARICUS JOHANSONIANUS PECK, 23 N. Y. REP. 1870.

Pileus fleshy, convex then expanded, obtuse; the flesh rather thin, soft, white; the surface smooth, glabrous, yellowish in the center, outwardly white; the margin striatulate when moist. Stipe solid, equal, white, smooth, striate at the summit; the annulus tumid, white, persistent. Lamellae rather narrow, close, rounded behind and slightly adnexed, white, becoming brown; spores brown.

Growing in grassy ground in pastures; New York, Peck. Pileus 5-10 cm. in diameter; stipe 5-10 cm. high, 6-10 mm. thick.

2. STROPHARIA CAESIFOLIA PECK, BULL. TORR. CLUB, 1895. SYLLOGE XIV, 157.

Pileus convex, glabrous, white or whitish, sometimes brownish in the center. Stipe solid, equal or slightly thickened at the base, glabrous, white or whitish; annulus white, persistent. Lamellae close, rounded behind and adnexed, at first pale blue, becoming dingy bluish-brown; spores subelliptic, 10-12 x 6-8 mic.

Growing in low-sandy pastures; Kansas, *Bartholomew*. Pileus 3-5 cm. in diameter; stipe 3-4 cm. long, 4-6 mm. thick.

3. STROPHARIA BILAMELLATA PECK, BULL. TORR. CLUB, 1895. SYLLOGE XIV, 151.

Pileus fleshy, convex, whitish or yellowish; the flesh white. Stipe short, solid, white; the annulus well developed, white, on the surface striate-lamellate. Lamellae close, adnate, at maturity purple-brown; spores purple-brown, elliptic, 10-11 x 5-6 mic.

Growing on the ground; California, *McClatchie*. Pileus 3-5 cm. in diameter; stipe 2-3 cm. long, 7-8 mm. thick.

4. STROPHARIA MAGNIVELARIS PECK, ALASKA CRYPT, 1904. SYLLOGE XVII, 86.

Pileus fleshy, convex then nearly plane, sometimes umbonate; the surface glabrous or obscurely radiate-fibrillose or fibrillose-scaly, ochraceous to fulvous when dry. Stipe long, slender, glabrous, solid, whitish, the base a little thickened; annulus membranaceous, ample, firm, white, persistent. Lamellae rather close, brown or blackish when mature; spores ellipsoid-oblong, 14-16 x 7-8 mic.

Growing on the ground; Alaska, *Trealease*. Pileus 2-3 cm. in diameter; stipe 5-7 cm. long, 2-4 mm. thick.

*b. Stipe fistulous, smooth or scaly.*

5. STROPHARIA HOWEANA. AGARICUS HOWEANUS PECK, 26 N. Y. REP. 1873.

Pileus fleshy, convex then expanded, subumbonate; the flesh thin and fragile, white; the surface yellowish, smooth and glabrous or sometimes cracking into areas. Stipe tapering upward from a slightly thickened base, fistulous, smooth and glabrous; the veil thin, fugacious, portions sometimes adhering to the margin of the pileus. Lamellae close, rounded behind and adnexed, at first whitish, becoming ferruginous-brown; spores elliptic, 8 x 5 mic.

Growing on the ground; New York, *Peck*. Pileus 5-7 cm. in diameter; stipe 7-10 cm. long, 4-8 mm. thick.

## 6. STROPHARIA HARDII ATKINSON, JOURNAL OF MYCOLOGY XII, 194.

Pileus fleshy, convex then expanded, obtuse; the flesh thin, yellowish; the surface smooth and glabrous, pale ochraceous. Stipe thick, stout, with a short root, floccose-scaly, yellowish; the annulus membranaceous, persistent. Lamellae rather broad, subventricose, adnexed, brownish; spores purple-brown, suboblong,  $5-9 \times 3-5$  mic.

Growing on the ground; Ohio, *M. E. Hard.* Pileus 6-9 cm. in diameter; stipe 10 cm. high, 10-15 mm. thick.

II. OCREATAE. *The fibrillae of the surface of the pileus superficial, broken up into scales appressed or squarrose; the stipe also fibrous-scaly.*

*a. Lamellae rather broad.*

## 7. STROPHARIA CAPUT-MEDUSAE FRIES, EPICRISIS, 1836. ICONES SEL. 131. COOKE ILLUSTR. 540.

Pileus fleshy, ovoid then convex and expanded, obtuse or subumbonate; the flesh thin, white, fragile; the dermis radiately fibrillous, its surface at first densely scaly-squarrose, the brown or blackish tufts soon disappear, leaving a smooth umber cortex, paler toward the margin. Stipe tapering upward from a solid base, hollow above, below the annulus clothed with brown squarrose scales, above white-mealy; annulus membranaceous, persistent, whitish with a brown border. Lamellae rather broad, ventricose, at first argillaceous, at length pale umber; spores purple-brown, fusiform,  $16-18 \times 5$  mic.

Subcaespitose; growing in Pine woods about the base of trunks. Pacific Coast Cat. Pileus 4-7 cm. in diameter; stipe 5-8 cm. long, 9-12 mm. thick.

## 8. STROPHARIA SULLIVANTII, A (PSILOCYBE) SULLIVANTII MONTAGUE, SYLL. CRYPT, 1856.

Pileus fleshy, convex-hemispheric; the flesh thick, incarnate-fulvous, becoming rufous; the dermis consisting of brown, silky, conic warts closely crowded together; the thin margin ornamented with radiating, flexuous, branched lines. Stipe thick, hollow within, naked above and striatulate, below the middle oblong-thickened and covered over with the same warts as those of the pileus. Lamellae broad behind and tapering outward, adnexed-seceding, purplish-brown, becoming black; spores brown, elliptic, 9-10 mic. in length.

Growing on the ground. Columbus, O. *Sullivant.* Pileus 11-12 cm. in diameter, the lamellae next the stipe almost a centimeter in width; stipe 10 cm. and beyond long.



9. STROPHARIA COPRINOPHILA ATKINSON, JOURN. MYC. VIII, 1902.

Pileus fleshy, convex then expanded and recurved; the flesh thin, white, soft; the surface dingy white finely floccose, often with numerous appressed scales; the margin appendiculate with fragments of the veil. Stipe equal or somewhat enlarged at the base, fistulous, whitish, fibrillose; the delicate annulus near the base. Lamellae broad, adnate, grayish then dark brown with a purplish tinge; spores purplish-brown or glackish, subelliptic, 7-8 x 3.5-4.5 mic.

Caespitose; parasitic on clusters of *Coprinus atramentarius*. New York, *Atkinson*; Minnesota, *Taylor*. Pileus 2-6 cm. in diameter; stipe 3-7 cm. high, 6-15 mm. thick.

b. *Lamellae rather narrow.*

10. STROPHARIA FOEDERATA A. (PSALLIOTA) FOEDERATUS. B. & M. SYLLOGE CRYPT, 1856.

Pileus fleshy, ovoid thin campanulate and expanded, the center slightly depressed; the flesh thin, white; the surface fulvous but sprinkled with minute white scales; the margin striatulate and appendiculate with fragments of the veil. Stipe tapering upward, hollow, scaly-squarrose below the ample annulus. Lamellae narrow, adnate behind and tapering thence to the margin of the pileus, at first lilac or rose color, at length becoming brown, spores ovoid oblong, brown, almost 10 mic. long.

Growing on the ground in pastures; Columbus, O., *Sullivant*. Pileus 5-7 cm. in diameter, the lamellae about 2 mm. in breadth; stipe 10 cm. long and 10 mm. and beyond thick. The species should be placed near *Str. ocreata* Holmsk.

II. STROPHARIA TUBERCULATA HYPHOLOMA TUBERCULATUM, PATOUILLEARD, BULL. SOC. MYC. 1899.

Pileus fleshy, at first globose, greenish, furnished with tuberculi-form scales; afterward campanulate, at length expanded, thin, smooth or scarcely striatulate. Stipe fistulous, fragile, whitish, rugulose, somewhat scaly below; annulus thin, membranaceous, the margin fimbriate, white, persistent, inserted about the middle or upper third of the stipe. Lamellae narrow, reaching the apex of the stipe, white, afterward purplish, at length brown-black; spores purple, ovoid, smooth, 6-8 x 3 mic.

Caespitose; growing on old trunks of *Hura crepitans*; Guadeloupe, *Duss.* Pileus 1-4 cm. in diameter; stipe 5-10 cm. long, 3-5 mm. thick.

12. STROPHARIA FLOCCOSA EARLE. HANGOS CUBANOS, 1906.

Pileus fleshy, convex, then expanded and depressed; the flesh thin, grayish; the surface brown-ochraceous, with a tinge of purple, when dry densely flocculose-scaly. Stipe equal or tapering slightly upward, fistulous, whitish, densely pubescent; the annulus thick, whitish, persistent. Lamellae adnate, close, rather narrow, of a uniform color, becoming dark purple-brown; spores elliptic, ovoid,  $6-7 \times 4$  mic.

Gregarious or caespitose; growing on the ground underneath buildings; Cuba, Earle. Pileus 2-4 cm. in diameter; stipe 4-6 cm. long, 2-4 mm. thick.

§ 2. VISCIPELLES. Dermis of the pileus a thin membrane covered by a viscous epidermal layer; the surface of the membrane usually smooth and glabrous.

I. STERCORARIAE. *Plants with much the habit of species of Panaeolus; growing on manure or in richly manured soil.*

a. *Pileus convex, obtuse.*

13. STROPHARIA SEMIGLOBATA. AGARICUS SEMIGLOBATUS BATSCH. EL. FUNG. CONT. I., 1786; AGARICUS GLUTINOSUS CURTIS, FLORA LAND, 1777; FUNGUS PARVUS, ALBUS, CUM LUTEOLA PORTE IN SUMMITATE CAPITULI, VISCO NITENTE RESPLENDENS. J. BANHIMES, HIST. PL. 1650.

Pileus fleshy, hemispheric, then convex, obtuse; the flesh very thin, white; the dermis a thin, smooth, yellowish membrane, with a thick glutinous epidermal layer, at first continuous downward with that of the stipe. Stipe tall, slender, straight, fistulous; the annulus rather distant, merely the upper margin of the glutinous investment of the stipe. Lamellae very broad, adnate, black-nebulous; spores purple-brown, elliptic,  $10-15 \times 8-10$  mic.

Solitary or gregarious; growing on manure in pastures; common everywhere, a world-wide species. Pileus 1-2 cm. in diameter; stipe 6-10 cm. long, 2-3 mm. thick.

14. STROPHARIA STERECORARIA, AGARICUS STERECORARIUS FRIES, SYST. I, 1821.

Pileus fleshy, hemispheric, then convex and explanate; the flesh thin, white; the dermis a thin yellowish membrane, the surface smooth, glabrous and slightly viscid. Stipe tall, slender, straight, stuffed with a distinct pith, below the distant annulus flocculose and slightly viscid. Lamellae very broad, adnate, at first white, at length umber or olive-black; spores purple-brown, elliptic,  $16-20 \times 12-15$  mic.



Solitary or gregarious; growing on manure in woods. Probably common enough, but not distinguished from semiglobatus, which it closely resembles. Fries gives the color of the younger pileus livid-yellow, of the adult pileus egg-yellow. Pileus 2-3 cm. in diameter; the stipe 7-12 cm. long, 3-5 mm. thick.

15. STROPHARIA SICCIPIES KARSTEN, SYMB. AD MYC. FENN IX, 46.

Pileus fleshy, hemispheric, then expanded, obtuse; the surface smooth and glabrous, viscid, argillaceous-white, changing to yellow when dry. Stipe stuffed, becoming hollow, straight or flexuous, slightly fibrillose, dry, pallescent; the annulus incomplete, dry, distant. Lamellae broad, adnate, subdecurrent, argillaceous, then brownish-nebulous, at length brown; spores brownish and pellucid, elliptic, 12-15 x 7-9 mic.

Growing on cow manure; New York, Peck. Pileus 2-3 cm. in diameter; stipe 4-7 cm. long, 2 mm. thick.

*b. Pileus ovoid then expanded, umbonate.*

16. STROPHARIA SUBMERDARIA BRITZELMAYR, HYM. SUDB. VIII.

Pileus fleshy, ovoid, then convex and expanded, subumbonate; the flesh thin, white; the surface smooth and glabrous, viscid, cream-color to pale ochre, becoming ochre-yellow in the center; the veil white, flocculose, mostly appendiculate. Stipe tapering upward from a thickened base, flexuous, with a narrow tubule, white, dry, silky fibrillose; the slight annulus near the apex. Lamellae broad, close, adnate, pale ochraceous becoming mottled by the spores, at length subdecurrent purple and brown; spores purple-brown, elliptic-oblong, 10-12 x 7-8 mic.

Subcaespitose; growing on cow manure; Preston, O. Pileus 3-5 cm. in diameter; stipe 3-5 cm. long, 3-5 mm. thick. This is probably the much larger variety alluded to by Fries under *Str. merdaria*.

17. STROPHARIA UMBONASCEUS, STROPHARIA UMBONASCEUS SACCARDO, SYLLOGE V. 1887; A. (STROPHARIA) UMBONATESCEUS PECK, 30 N. Y. REP. 1877.

Pileus at first ovoid-conic, then expanded and umbonate, smooth, viscid, yellow, the umbo inclining to reddish. Stipe tall, slender, hollow, generally a little paler than the pileus. Lamellae broad, plane, then ventricose, blackish-brown with a slight olivaceous tint; spores purplish-brown, almost black, 15-18 x 10 mic.

Growing on manure in pastures; New York, Peck; Preston, O. Pileus 1-2.5 cm. in diameter; stipe 7-10 cm. long. This seems closely related to *Str. mammillata* Kalchbr.

IV. INNUCTAE. *Not finnicolous; growing on the ground or on old wood in fields and woods.*

*a. Stipe solid.*

18. STROPHARIA SQUARROSA. AGARICUS SQUARRO-SUS VAHL. IN FLORA DANICA, 1191; AGARICUS DIPILATUS PERSEON, SYNOPSIS, 1801; AGARICUS HORNEMANNI FRIES, OBS. II, 1818.

Pileus fleshy, convex, then expanded, obtuse; the flesh thick, compact, white; the surface smooth, viscid when moist, yellowish, becoming brownish. Stipe long, thick, solid below the ample annulus squarrose with revolute white scales. Lamellae broad, adnate-decurrent, at first whitish then blackening; spores purple-brown, elliptic, 10-14 x 5-8 mic.

Growing on the ground and on trunks in Pine woods; New York, Peck. Pileus 8-20 cm. in diameter, the lamellae 7-12 mm. in breadth; stipe 10-20 cm. long, 1-3 cm. thick. A large and showy fungus.

19. STROPHARIA DRYMONIA, MORGAN SP. NOV.

Pileus fleshy, subglobose, then convex, expanded and explanate or somewhat depressed; the flesh thick, compact, white; the surface smooth and glabrous, viscid, pale ochre to ochraceous; the veil thin and fragile, lacerate and subappendiculate. Stipe elongated, tapering upward, thick, solid, white, glabrous; the annulus frail, deciduous. Lamellae narrow, crowded, adnexed, at first white then grayish-brown; spores brown, 5-6 x 3-4 mic.

Growing on and among rotten wood in woods; Preston, O. Pileus 6-10 cm. in diameter. Stipe 8-14 cm. long, 6-10 mm. thick above the base.

20. STROPHARIA MICROPODA, MORGAN, SP. NOV.

Pileus fleshy, subovoid, then convex and expanded, obtuse; the flesh thick, firm, pale yellow; the dermis a thin membrane, lilac or livid in color, covered by a thick greenish layer of glutin; the veil lacerate, subappendiculate. Stipe very small, solid, fibrillose-scaly, pale yellow above and within, below livid; the slight annulus at the summit of the stipe. Lamellae rather broad, close, arcuate, emarginate, at first pale drab, then changing to livid, at length olivaceous; spores in mass at first livid, becoming olive-brown, oblong, inequilateral, 6-7 x 3-4 mic.

Subcaespitose; growing on dead branches of *Quercus*, *Hickoria*, etc.; Preston, O. Pileus 4-7 cm. in diameter, the lamellae 5-8 mm. in breadth; stipe 3-4 cm. long, 4-7 mm. thick. After drying the pileus and lamellae become olivaceous, the stipe yellow-green.

b. *Stipe Fistulous.*

21. STROPHARIA PSEUDO-CYANEA, AGARICUS PSEUDO-CYANEUS DECMAZIERES CAT. 22 SEC. DUBY BOTANICON GALLICUM, 1830; ALSO FRIES, INDEX, 1828; AGARICUS ALBO-CYANEUS PERSOON, MYCOLOGIA EUR.

Pileus fleshy, ovoid, then campanulate and expanded umbonate, the flesh thin, soft, white, the surface smooth, viscid, green, becoming white. Stipe slender, flexuous, hollow, smooth, dry, whitish; the annulus thin and fragile, fugacious. Lamellae rather broad, white-incarnate, then brown and purpurascens; spores purplish-brown, elliptic,  $7-8 \times 4-5$  mic.

Growing in the rich soil of pastures and meadows; New York, Peck. Pileus 3-6 cm. in diameter; stipe 5-7 cm. long, 6-9 mm. thick. This is an obscure species characterized by Fries as thinner and smaller than *A. aeruginosus*; also by having the stipe dry, not viscid. Cooke's figures of *A. albo-cyaneus* must be something different from the species of Fries and Karsten; they may be the generic species.

22. STROPHARIA MELASPERMA, AGARICUS MELASPERMUS FRIES EPICRISIS, 1836; COOKE ILLUSTR. 536; AGARICUS MELANOSPERMUS BULLIARD, HERB. FR. 1791.

Pileus fleshy, convex, then expanded and explanate or somewhat depressed; the flesh thin, soft, white; the surface smooth, at first slightly viscid, whitish, straw-colored in the center. Stipe nearly equal, stuffed, white, silky-fibrillose, striate at the apex; the annulus membranaceous, white, deciduous. Lamellae broad, close, adnexed, ventricose, whitish, then gray-violet at length blackening; spores brown, ovoid,  $10 \times 6$  mic.

Growing in meadows and pastures; New York, Peck. Pileus 3-5 cm. in diameter; stipe 4-6 cm. long, 5-7 mm. thick.

23. STROPHARIA VIRIDULA, AGARICUS VIRIDULUS SCHAEFFER, ICONES, TAB. I, 1762, INDEX, 1774. AGARICUS AERUGINOSUS CURTIS, FLORA LAND, 1777.

Pileus fleshy, ovoid then campanulate and expanded, subumbonate; the flesh rather thin, white; the dermis a thin separable membrane, yellowish, smooth or with scattered superficial scales, at first covered over by a dense bluish-green gluten which gradually disappears. Stipe nearly equal or tapering slightly upward, fistulous, below the annulus white, fibrillose or scaly, at first smeared with the bluish-green gluten. Lamellae broad, adnate, at first whitish, then brown, at length purplish; spores purplish-brown, elliptic,  $7-9 \times 4-5$  mic.

Growing on the ground in fields and on trunks in woods. A common species. Pileus 5-10 cm. in diameter; stipe 6-10 cm. long, 5-10 mm. thick. In the form I find in this region the gluten quickly loses its color and becomes pellucid.

24. STROPHARIA DISTANS, AGARICUS DISTANS PER-  
SOON, DISP. METH. FUNG. 1797; AGARICUS SQUAMOSUS PER-  
SOON SYNOPSIS FUNG. 1801; FRIES, OBS. MYC. II, 1818.

Pileus fleshy, convex, then expanded and explanate, obtuse or subumbonate; the flesh thin, whitish; the surface viscid when moist, ochraceous, covered with scattered floccose scales. Stipe tall, slender, tapering upward, fistulous, pallid above, ferruginous and villous-scaly below the distant annulus. Lammellae broad, close, adnate, cierreous, then blackening; spores elliptic-oblong, 10-14 x 6-8 mic.

Growing on the ground in fields and woods; N. Carolina, Curtis; New York, Peck. Pileus 3-7 cm. in diameter; stipe 6-12 cm. long, 4-6 mm. thick.

25. STROPHARIA CUBENSIS EARLE, HONGOS CU-  
BANOS, 1906.

Pileus fleshy, convex, then nearly explanate, umbonate; the flesh thin, white, inclining to yellow; the surface smooth and glabrous, viscid when young and moist, shining when dry, ochraceous with a tinge of lilac. Stipe arising from a more or less thickened base, tapering upward, hollow, glabrous, yellowish at the summit, dark gray below, turning green and blue when cut or bruised, annulus ample, thick, persistent. Lamellae broad, close, ventricose, adnexed, at first pale gray, at length purple-brown; spores elliptic, 13-15 x 9-10 mic.

Solitary or somewhat gregarious; growing in rich soil and pastures where the land is wet; Cuba, Earle. Pileus 3-8 cm. in diameter; stipe 6-10 cm. long, 4-10 mm. thick.

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*Alphabetical List of Articles, Authors, Subjects, New Species and Hosts, New Names and Synonyms.*

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ALLEN, Caroline L. The development of some species of *Hypopholoma*. *Ann. Mycolog.* 4:387-394. Oct. 1906.

ALTERNATION of Generations and the Morphology of the Spore Forms in the Rusts. A. H. Christman. *Bot. Gaz.* 44:81-101, Pl. VII. Aug. 1907.

AMANITA phalloides, A case of poisoning by. Otto E. Jennings. *Jour. Mycol.* 13:187-8. Sept. 1907.